



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D4766-041-BENT
Job Sheet 199294



Part No: D4766-041-BENT

Job Qty: 1 pcs

Part Name: Extrusion Bent



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 8/16/19

Job Tracking No:

Due Date: 8/30/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV E IPP REV:A 16.05.16 NEW ISSUE DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Skidtubes - Bend - 1	1 pcs	8/30/19	8/30/19	0.00	1.49	Skidtubes - Bend		<i>MLG</i>
120	QC 5	1 pcs	8/30/19	8/30/19	0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		<i>SE</i>
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		
130	Packaging 3-1 - Stock - B4B	1 pcs	8/30/19	8/30/19	0.00	0.00	Packaging 3 - 1 - B4B		
							Packaging 3 - 2 - B4B		
							Packaging 3 - 3 - B4B		
							Packaging 3 - 4 - B4B		
							Packaging 3 - 5 - B4B		
							Packaging 3 - 6 - B4B		
							Packaging 3 - 7 - B4B		
							Packaging 3 - 8 - B4B		
							Packaging 3 - 9 - B4B		
							Packaging 3 - 10 - B4B		
							Packaging 3 - 11 - B4B		



Container No: S207351



Part: D4766 - 041 - BENT

Job No: 199294

Serial No/Batch: S207351

Revision: E

Inspector:

Exp Date:

Instructions: Various STC's

Dart Aerospace Ltd.
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CANADA
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Email: sales@dartaero.com
www.dartaerospace.com

Date: 08/20/19

				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	BE
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
				140 QC 21 - SA	1 pcs
				8/30/19	0.00 0.00
				QC 21 - SA - 21	
				QC 21 - SA - 70	
				QC 21 - SA - 53	

AUG 22 2019

Part Op 110 - Skidtubes - 1- Bend FWD end as per dwg and folio 2- Cut FWD end as per dwg using DT8185 ***VERIFY
 Descriptions: MESUREMENT****

- 120 - QC5- Inspect part completeness to step on W/O
 130 - Identify as per dwg & Stock Location: LG002
 140 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2962-190	Extrusion	1 pcs (1 ea)	110-Skidtubes - Bend - 1	5155/45

Job Allocations

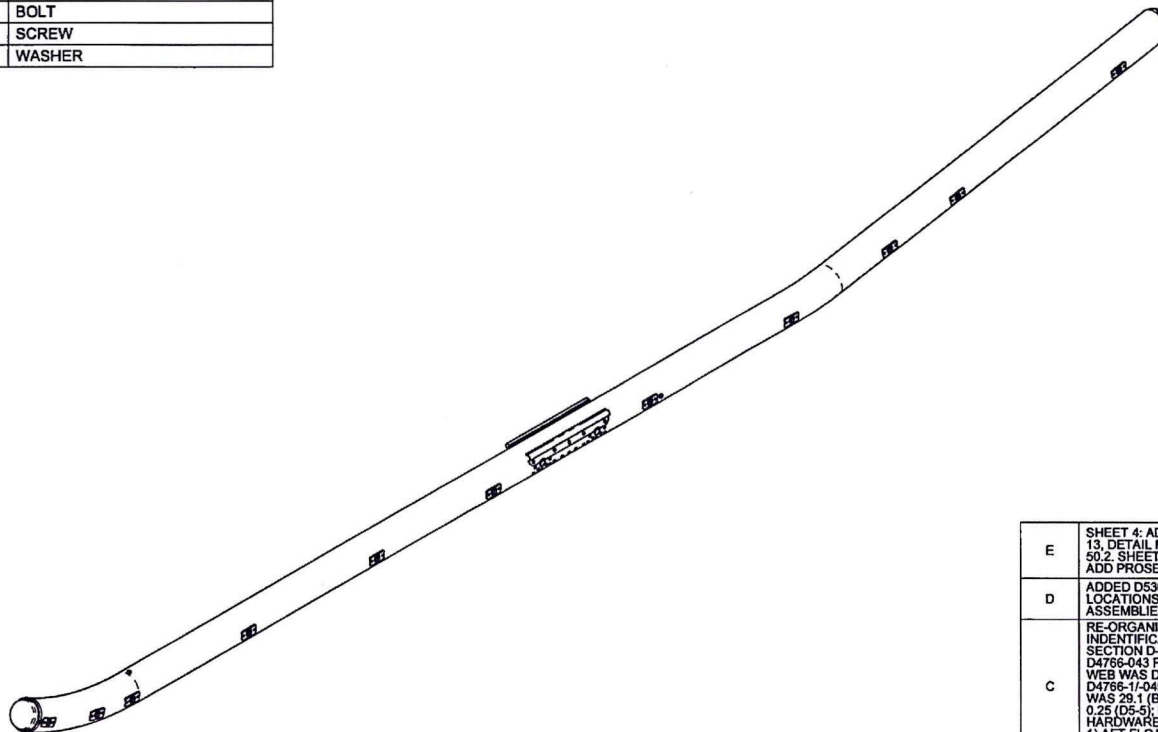
Operation	Component Part	Required	Inventory	Allocated
110-Skidtubes - Bend - 1	D2962-190	1	44	0

Part Specifications

Specifications could not be found.

Plex 8/16/19 1:04 PM Dart.lajeunesse.marie

ITEM	QTY	P/N	DESCRIPTION
	X	D4766-041	SKIDTUBE
1	1	D2965	CAP
2	1	D2965-3	CAP
3	1	D4766-043	SKIDTUBE SUB ASSY
4	2	AN3C5A	BOLT
5	2	AN526C1032R10	SCREW
6	2	NAS1149C0332R	WASHER



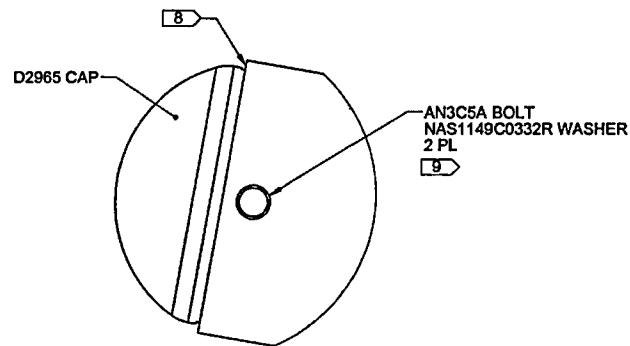
D4766-041 SKIDTUBE

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUSCEPT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 199294 MWS
1908-16

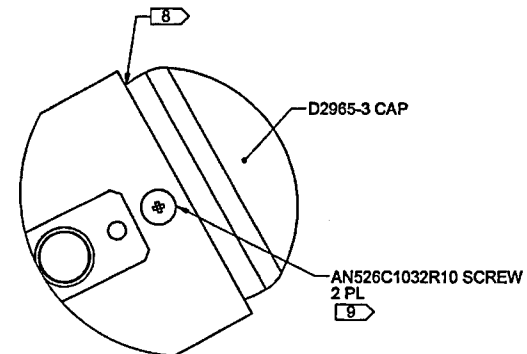
E	SHEET 4: ADD ITEMS 3, 4, 5 & 6. SHEET 6: ADD NOTES 9-13, DETAIL M, SECTION N-N, SECTION P-P & DIM 35.9 WAS 50.2. SHEET 7: Ø0.188 DIM WAS Ø0.125. WEIGHT UPDATE. ADD PROSEAL 1422. REASON: NCR 17-6303, PART 6-519	AJS	17.03.30
D	ADDED D5304-1 SWAGED CROSSBOLT SPACER FOR GHL LOCATIONS. ADDED SHT 1. REMOVED D3492-055 PLUG ASSEMBLIES. RE-ORDER SECTIONS	AP	15.11.02
C	RE-ORGANIZED SECTIONAL/DETAIL VIEWS ALL SHTS; IDENTIFICATION MOVED FROM SHT 1 TO SHT 5; SECTION D-D AND DETAIL K 11 PL WAS 12 PL; MODIFIED D4766-043 FINISH; Ø0.750 WAS Ø0.758 (B4-3); D2965-1 WEB WAS D4768-1; VARIOUS MINOR DIM CHANGES TO D4766-17-045 TO MATCH STD SKIDTUBE PROFILE; 35.9 WAS 29.1 (B7-4); GROUNDING FASTENER MOVED AFT 0.25 (D5-5); D2965 HARDWARE AND GROUNDING HARDWARE CHANGED TO STAINLESS; ADD NOTE 9 (SHT 1) AFT FLOAT HOLES NOW DIMENSIONED AFTER AFT BEND	AP	15.02.25
B	FWD CAP WAS D2965 NOW D2965-3. D3492-055 WAS D3492-051. SWAGING NOW 0.650 WAS 0.661 (C7-2). ADDED BENDING DETAIL TO SHEET 4. MATERIAL D2962-190 WAS D2962-185 (A7-5). ADDED DETAIL L ON SHT 3. ADDED TOP VIEW ON SHT 5. REPLACED D4768-1 WITH D4927-041 ON SHT 3. GROUND HANDLING THRU HOLES SPACERS NOW WELDED. SEE SECTION H-H (B4-2). RE-ORDERED SECTIONS AND DETAILS.	AP	13.08.08
A	NEW ISSUE	AP	13.02.13
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	AJS		
CHECKED	ML	DRAWING NO.	REV. E
MFG. APPR.	DP	D4766	SHEET 1 OF 7
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS
DATE	17.03.30	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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2017-08-11
ECW17-547

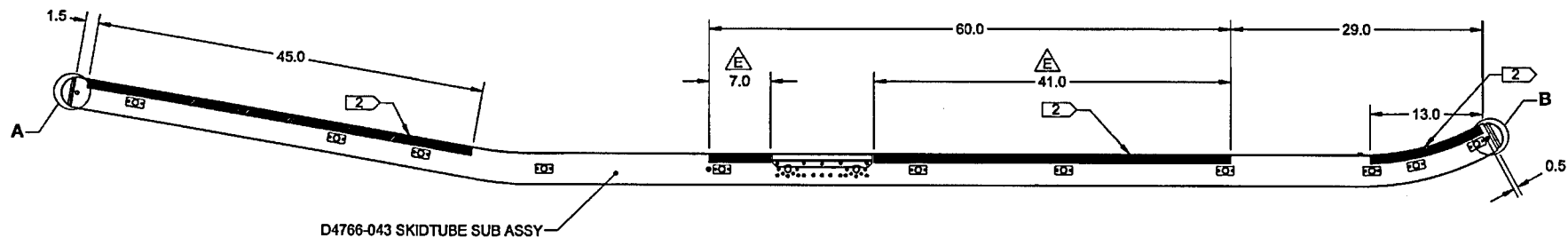
APPROVED



DETAIL A
SCALE 6X



DETAIL B
SCALE 6X



D4766-041 SKIDTUBE $\triangle$

NOTES:

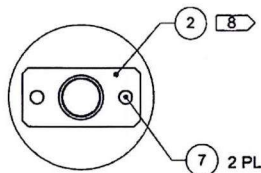
- 1) MATERIAL: N/A
- 2) FINISH: PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 1.00 ABOVE CENTERLINE PER DART QSI 005 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 34.6 lbs
- 8) SEAL MATING SURFACES WITH SIKAFLEX -241/-291 OR PROSEAL P/S 890/1422 OR MIL-S-8802 CLASS B2 SEALANT
- 9) INSTALL FASTENERS WET WITH SIKAFLEX -241/-291 OR PROSEAL P/S 890/1422 OR MIL-S-8802 CLASS B2 SEALANT

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2017-08-11

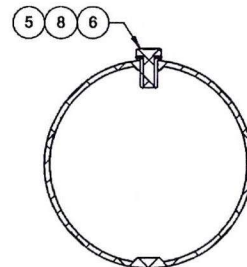
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DRAWN	AJS		
CHECKED	ML	DRAWING NO.	REV. E
MFG. APPR.	DP	D4766	SHEET 2 OF 7
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS
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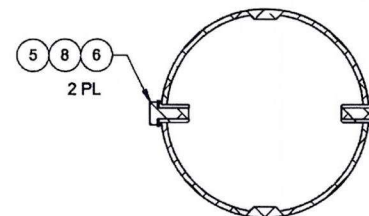
ITEM	QTY -043	P/N	DESCRIPTION
	X	D4766-043	SKIDTUBE SUB ASSY
1	11	D4686-1	SPACER
2	22	D4753-1	DOUBLER
3	1	D4766-045	SKIDTUBE SUB ASSY
4	2	D5304-1	CROSSBOLT SPACER
5	3	AELS-1032-130	INSERT
6	3	AN3C4A	BOLT
7	44	MS20601AD4W3	RIVET, BLIND, CSK
8	3	NAS1149C0332R	WASHER



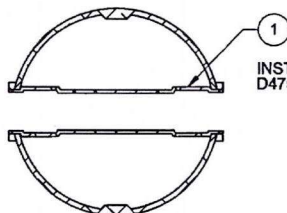
DETAIL E
SCALE 6X
22 PL



SECTION D-D
SCALE 6X



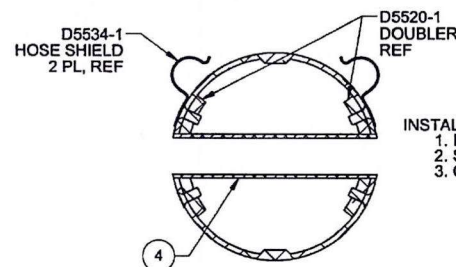
SECTION F-F
SCALE 6X



SECTION C-C
SCALE 6X
11 PL

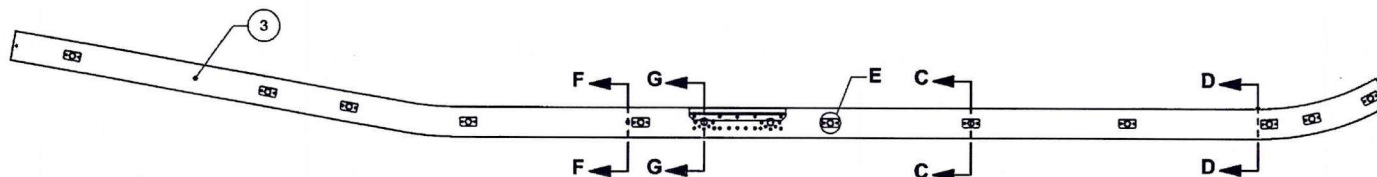
INSTALL D4686-1 SPACER AFTER INSTALLING
D4753-1 DOUBLERS AS FOLLOWS (11 PL)

1. INSERT D4686-1 SPACER
2. SWAGE TO $\phi 0.650 +0.010/-0.000$ X 1.0 DEEP PER QSI 002
3. TRIM/GRIND FLUSH PER QSI 002



SECTION G-G
SCALE 6X
2 PL

INSTALL D5304-1 SPACER AS FOLLOWS (2 PL)
1. INSERT D5304-1 SPACER
2. SWAGE TO $\phi 0.565 +0.005/-0.000$ X 1.0 DP PER QSI 002
3. OPEN THRU HOLE TO $\phi 0.625$



D4766-043 SKIDTUBE SUB ASSY

NOTES:

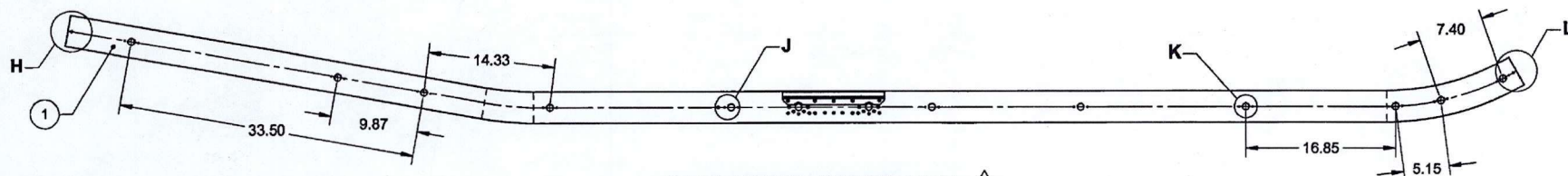
- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME (REF 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 33.9 lbs
- 8) SEAL FAYING SURFACES USING PROSEAL P/S 890/1422 OR MIL-S-8802 CLASS B2 SEALANT

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CHECKED	ML	DRAWING NO.	REV. E
MFG. APPR.	DP	D4766	SHEET 3 OF 7
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS
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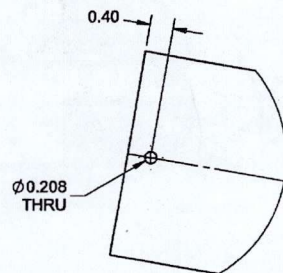
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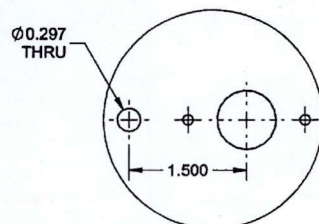
ITEM	QTY	P/N	DESCRIPTION
	X	D4766-045	SKIDTUBE SUB ASSY
1	1	D4766-1	SKIDTUBE
2	1	D5085-1	WEB
3	2	D5520-1	DOUBLER
4	2	D5534-1	HOSE SHIELD
5	58	CR3212-5-05	CSK RIVET, CHERRY MAX
6	10	CR3213-5-06	RIVET, CHERRY MAX



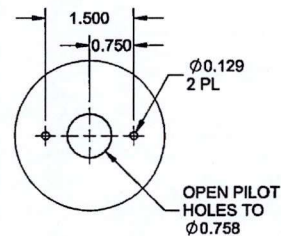
D4766-045 SKIDTUBE SUB ASSY



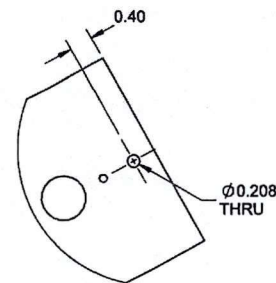
DETAIL H
SCALE 6X



DETAIL J
SCALE 4X



DETAIL K
11 PL (BOTH SIDES)
SCALE 6X



DETAIL L
SCALE 6X

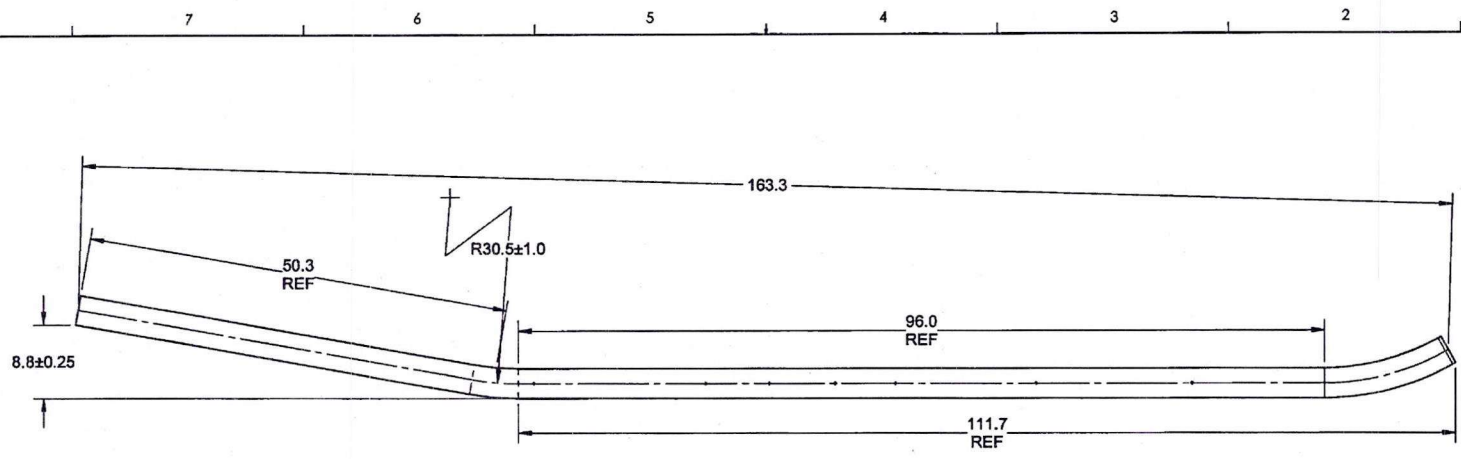
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 32.9 lbs

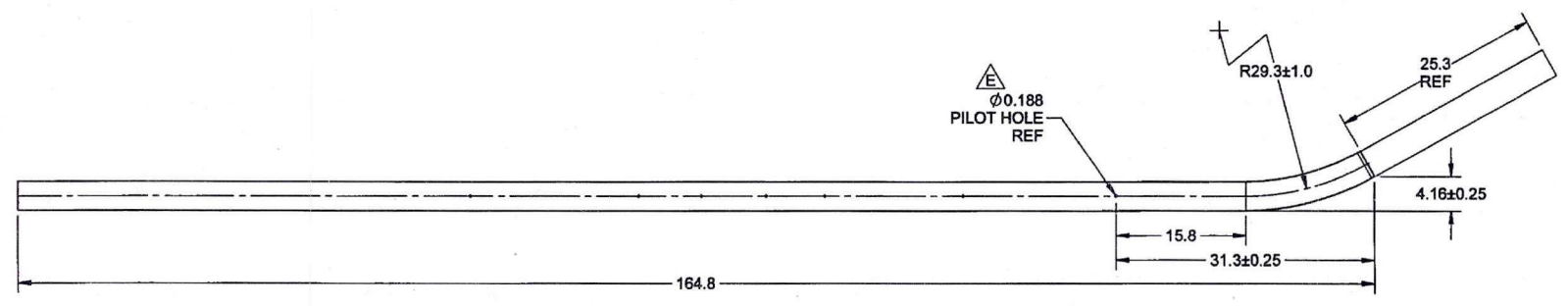
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MFG. APPR.	DP	D4766	SHEET 4 OF 7
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DE APPR.	DS	SKIDTUBE	NTS
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D4766-045 SKIDTUBE SUB ASSY
(BENDING DETAIL, AFT BEND)

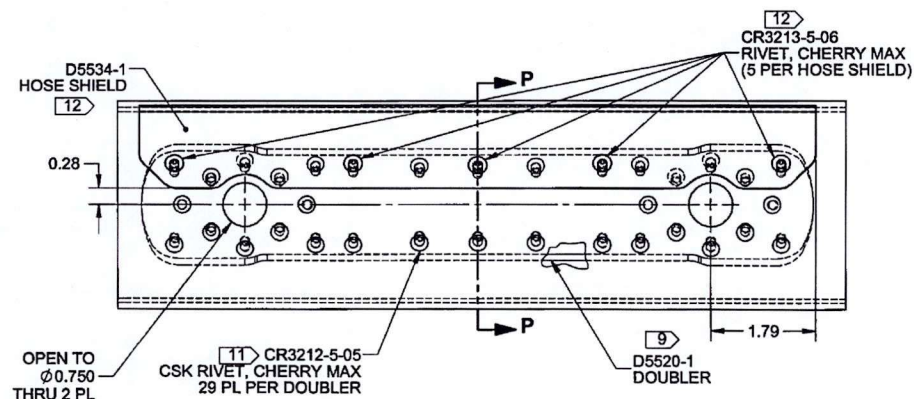
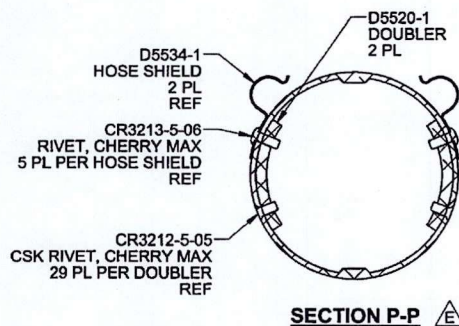
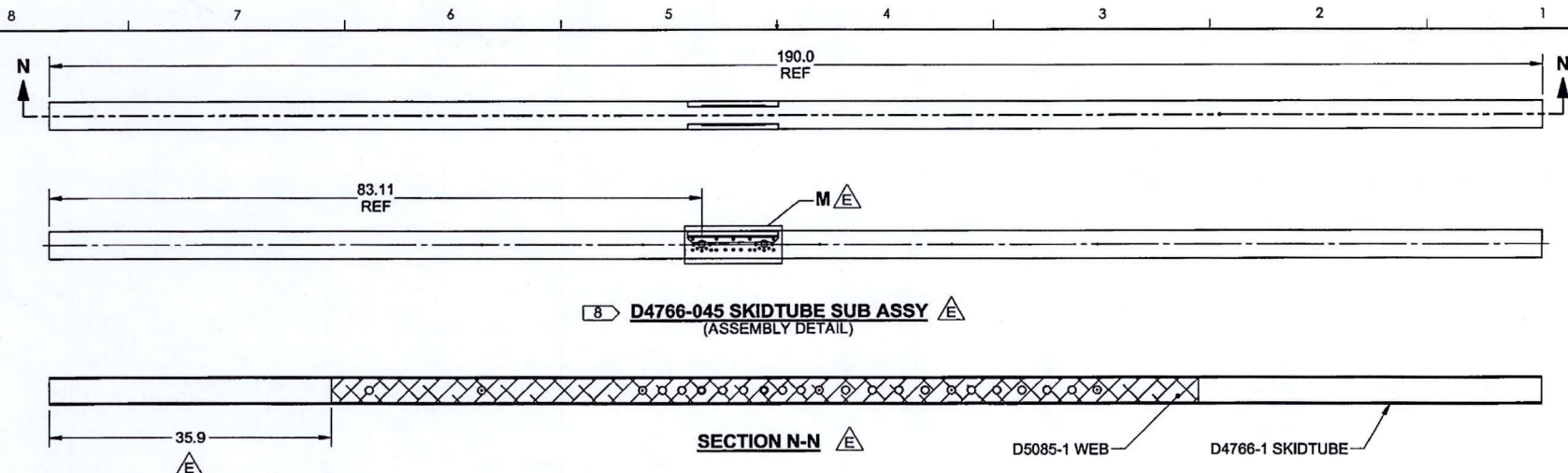


D4766-045 SKIDTUBE SUB ASSY
(BENDING DETAIL, FWD BEND)

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NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: N/A

8) INSERT D5085-1 WEB INTO D4766-1 EXTRUSION IN LOCATION SHOWN AND BOND INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX -241/291 ADHESIVE PER DART QSI 015.

9) LOCATE THE D5520-1 DOUBLER USING THE Ø0.188 PILOT HOLES ON THE SKIDTUBE AND DOUBLER

10) LOCATE QTY (34) HOLES ONTO THE SKIDTUBE PER D5520-1 DOUBLER AND DRILL Ø0.161 THRU SKIDTUBE AND DOUBLER USING DT 10309

11) COUNTERSINK THE SKIDTUBE Ø0.286 X 100° (29 PL) AND INSTALL EACH D5520-1 DOUBLER USING QTY (29) CR3212-5-05 CSK RIVETS

12) FOR INSTALLATION OF THE D5534-1 HOSE SHIELD:

-INSTALL ON FINISHED (PAINTED) SKIDTUBES ONLY

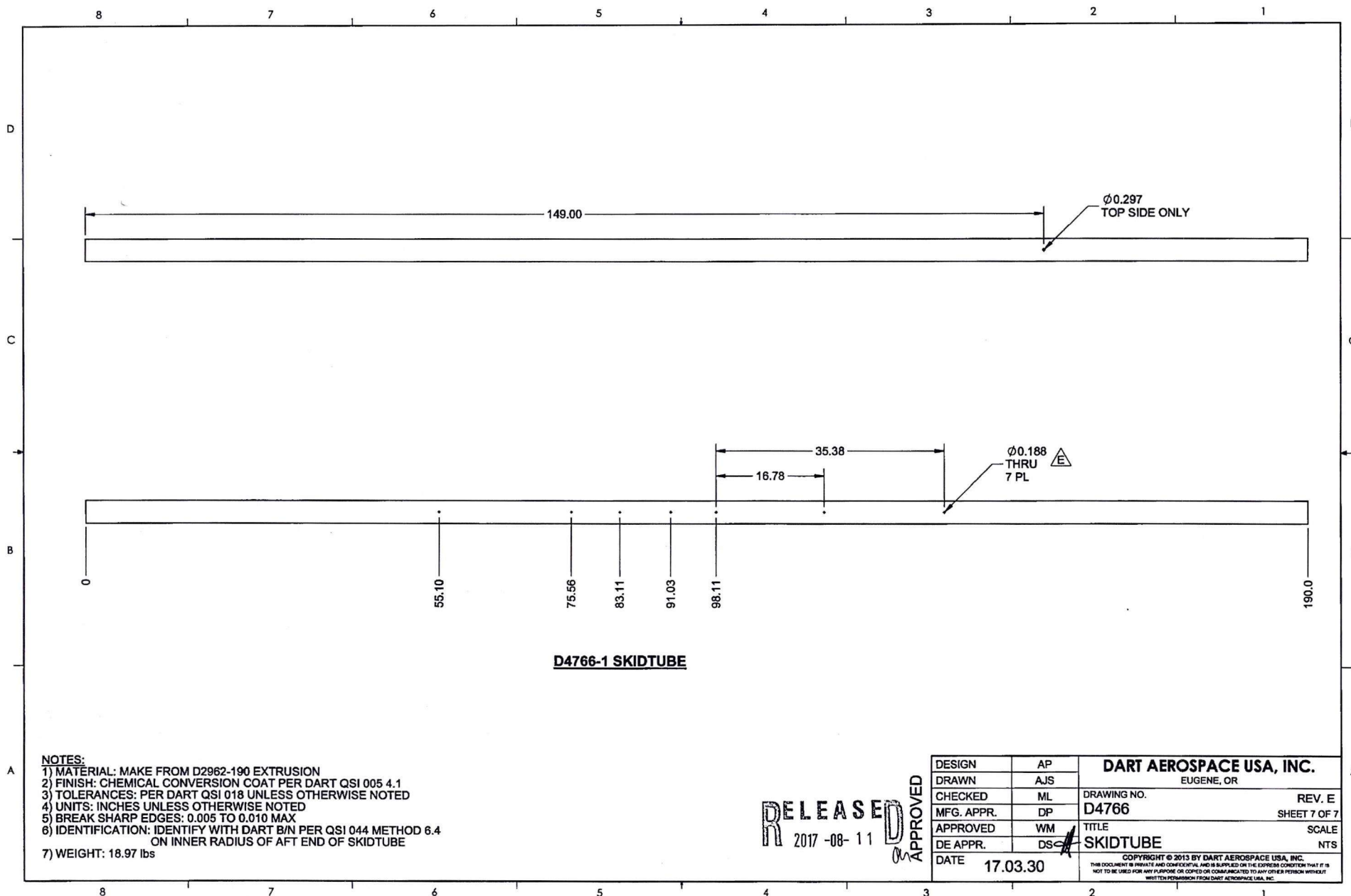
-COAT THE FAYING SURFACES WITH PROSEAL 890/1422.

-INSTALL THE QTY (5) CR3213-5-06 RIVETS WET USING PROSEAL 890/1422

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					